

## **REMARKS/ARGUMENT**

### **Amendments to the Specification**

The Title of the Application has been changed to correct an obvious typographical error, as supported, *inter alia*, on page 2, line 2, and in Claim 1, page 7, line 2.

The substitution of an  $R^2$  for an  $R^3$  in the structure on page 2 of fatty acid alkanolamides cures an obvious typographical error and proofreading oversight in the structural representation of the term, as clearly intended by the presence of the definition of  $R^2$  below the structure, and as supported, *inter alia*, in the Specification in the name itself, as well as in Examples 1 and 2. The addition of "independently" adds clarity, would have been assumed, and is also the cure of an obvious oversight, and the remaining minor changes merely add clarity.

The changes in the temperature ranges on page 4 reflect the adoption of the more preferred alkoxylation temperature range from page 4 for safe operating considerations, the addition of a "more preferred" range is supported by the temperature at which the alkoxylation was conducted in Example 2, and the remaining minor changes merely add clarity or reflect preferred usage.

None of these changes is believed to expand the original scope of the Application or otherwise add any new matter to the Specification.

### **Amendments to the Claims**

The amendments to Claims 13-16, 18, 20, 24-26 and 27-30 represent minor additions for clarity, grammatical or stylistic reasons, without substantively changing any of these Claims. The changes to Claims 11, 21 and 23 reflect the incorporation of the original preferred temperature ranges from page 5, line 8, into Claims 11 and 23, and the deletion of the previous temperature range from Claim 21, as supported in the Specification, as explained above. The exchange of  $R^2$  for one of the  $R^3$ 's attached to the nitrogen atom in Claim 12 was made to correct an obvious typographical error in Claim 12, as explained above with respect to the same structure on page 2, lines 23-25

of the Specification, and is obviously supported in the name, as well as, *inter alia*, by "monoethanolamide" in Example 1, page 5, line 12, and Example 2, page 5, line 23.

Accordingly, Applicants submit that amendments to the Specification and the Claims are fully supported by the original Specification and Claims and add no new matter to the Application. Entry of these amendments and continued examination based on the same is respectfully requested.

The instant Application is directed to a process for producing a light-colored fatty acid alkanolamide polyalkylene glycol ether, with reduced unwanted secondary products, such as dioxane, by the addition of an alkylene oxide, preferably selected from the group consisting of ethylene oxide, propylene oxide, butylene oxide, and mixtures of two or more thereof, in the presence of, preferably 0.1 to 2.5, more preferably 0.2 to 1%, by weight, of a reducing agent, preferably selected from the group consisting of sodium borohydride, hypophosphorous acid and alkali metal salts thereof, to a fatty acid alkanolamide, preferably in a molar ratio of 1:1 to 25:1, more preferably 2:1 to 10:1 alkylene oxide-to-fatty acid alkanolamide, in the presence of, preferably, 0.1 to 5, more preferably 0.5 to 2%, by weight, based on the weight of the starting materials, of one or more alkylene catalysts, at from 110 to 140, preferably 120 to 140°C, and, preferably, from 1 to 10, more preferably 3 to 6 bar pressure, then treating the reaction product, for preferably one to two hours with steam, under alkaline conditions, preferably at a pH of from 9 to 12.

Claim 12 has been rejected under 35 USC § 112, first paragraph, due to the presence of R<sup>2</sup> in the definitions of the constituents of the shown structure and essential to the clear understanding of the educts of the inventive process of the instant Application, but not in the structure itself.

Amendments to the structures on page 2 of the Specification and in Claim 12, as fully supported by the term itself and the Specification as a correct representation of the fatty acid alkanolamides of the process, as discussed above, are believed to fully satisfy and overcome this rejection. Reconsideration and withdrawal of the rejection is, therefore, respectfully requested.

Claims 11, and 13-30 have been rejected under 35 USC § 103(a) as unpatentable over Hiroyuki *et al.* (JP10-077255) in view of Connor (GB2 153 373A).

Published Japanese Patent Application 10-077255 (Kao Corporation, with Hiroyuki *et al.* as named inventors), according to the abstracted version presented, describes the production of a polyoxyalkylene amide of a fatty acid, which product has improved stability, with "neither coloring nor muddiness", for use potentially, *inter alia*, in cosmetics, kitchen detergents or as a detergent improver, as a foaming agent, or a bubble stabilizer, comprising adding an excess of C<sub>2</sub>-C<sub>4</sub> alkyleneoxide to a fatty acid alkanolamide of the formula RCON(X)<sub>p</sub>(Y-OH)<sub>m</sub> in the presence of a basic catalyst at a temperature of, preferably, 80-100°C, followed by removal of low-boiling-point components by distillation together with the catalyst and water or steam.

While there are similarities between the Japanese publication's process and Applicants' process, Kao Corporation's use of the lower temperature range for their alkoxylation could result in an explosion from unreacted ethylene oxide that remains solubilized in the reaction mixture, and excludes the possibility of Applicants running any comparative examples with the Kao Corporation's process. This risk is not present with the higher temperatures used in Applicants' alkoxylation that result in the destruction of such excess ethylene oxide, eliminating such explosion risks, but also resulting in greater decomposition and therefore discoloration of the reaction product, for which Applicants employ the reducing agent(s) in their process.

Clearly, the Kao Corporation publication neither discloses nor fairly suggests Applicants' process.

Published UK Patent Application 2 153 373A (Procter & Gamble, with Connor the named inventor) describes a process for minimizing color formation during ethoxylation (preferably by reaction with ethylene oxide at temperatures of about 100 to about 160, preferably about 100 to about 130°C, and preferably in the absence of a solvent) of 2-hydroxyethylamines in the presence of a base catalyst, such as an alkali metal hydrides or hydroxides, and a color-reducing borohydride, which resulting products may be used, e.g., as surface-active agents, emulsifiers and textile aids, and particularly, in detergent compositions.

With respect to the Procter & Gamble (P&G) publication, their educts may be similar to those of Applicants' invention, but their resulting products are considerably different. P&G employs 2-hydroxyethylamines, in which the more reactive amine group is ethyloxyated, resulting in a hydrophilic reaction product, whereas the hydroxyl group in Applicants' fatty acid alkanolamides is preferentially alkoxyated, resulting in a product that is both hydrophilic and hydrophobic.

Clearly, the P&G publication neither discloses nor fairly suggests Applicants' process and fails to cure the deficiencies of the Kao reference. Adopting the reducing agent from the P&G process would not overcome the risks of the Kao process, and there is no motivation in the P&G reference for replacing their hydroxyethylamine with the alkanolamide of the Kao reference and raising Kao's ethoxylation temperatures to the upper ranges of P&G's exemplified 104-117 or 104-117°C ranges. Selectively combining features of each reference would require the hindsight gained from having knowledge of Applicants' invention, rather than from any teaching, suggestion or motivation from either reference.

Reconsideration and withdrawal of this rejection is, therefore, respectfully solicited.

Believing that the Application is in condition for allowance, Applicants earnestly solicit such favorable action of the Examiner, and respectfully request that a timely Notice of Allowance be issued in the prosecution of this Application.

If any further questions do remain which may be resolved by a telephone interview, the Examiner is respectfully requested to telephone Applicants' undersigned Attorney.

Respectfully submitted,  
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